Total Laparoscopic Hysterectomy

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Objectives

By the end of this unit, you should be able to do the following:

• Describe the indications for laparoscopic hysterectomy
• Explain preoperative planning for laparoscopic hysterectomy, including options for anesthesia and patient preparation
• Demonstrate the correct technique to perform a laparoscopic hysterectomy
• Describe possible perioperative complications
Evolution of Hysterectomy

• 1989: Reich reported the first laparoscopically assisted vaginal hysterectomy
• 1990s: Hysterectomy was introduced into residency training programs
• 1989: 600,000 hysterectomies were performed in the United States, of which 70% were total abdominal hysterectomies
• 2016: 70–80% of hysterectomies were done using minimally invasive techniques
The evolution of hysterectomy can be described as starting with traditional abdominal and vaginal routes for hysterectomy:

- Total abdominal and vaginal hysterectomy (TAH, TVH)
- Laparoscopic-assisted vaginal hysterectomy, introduced by Harry Reich in late 1980s (LAVH)
- Laparoscopic supracervical hysterectomy (LSH)
- Total laparoscopic hysterectomy (TLH)
- Despite this evolution over the past 20 years, 66% of all hysterectomies still are performed through the abdominal approach.

Source: Wu et al, Ob Gyn 2007
Total Laparoscopic Hysterectomy: Why Do It?

A total laparoscopic hysterectomy:

- Reduces hospital stay by 2 days
- Reduces post-operative recovery by 2 weeks
- Causes less postoperative pain and discomfort
- Results in
  - less blood loss
  - substantial financial savings because of lower hospital costs
Disadvantages

• Requires increased laparoscopic skills
• Reduces time for training in vaginal surgery skills
• Increases
  o operative time
  o procedure cost
Indications

Should be considered when an abdominal hysterectomy is planned for
- pelvic adhesive disease
- endometriosis
- nulliparity

Should not be used in cases of
- advanced malignancy
- large pelvic masses
- inadequate visualization because of dense adhesions

A total laparoscopic hysterectomy should not be
- used as a substitute for total vaginal hysterectomy
- performed without proper equipment and training
Preparation

• Check that equipment is available and functioning properly before starting the procedure
• Position the patient in low lithotomy (See Allen® stirrups in see Fig. 1)*
• Tuck both arms to sides—see Fig. 1
• Foley catheter (see Fig. 2)
• Position dual monitors (see Fig. 3)
• Check camera resolution

*Note: any reference to products in this presentation are made by the authors. ACOG does not promote or endorse any product or company.
The Surgeon

• Optimizes visualization
• Trendelenburg position
• Maintains hemostasis
• Unnecessary blood loss
Introduction: Anatomic Landmarks

- Check anatomic landmarks
- Umbilicus
- Anterior superior iliac spine
- Pubic symphysis
- Aorta
- Surgical scars
Introduction: Abdominal Vessels

See the blue text to identify these abdominal vessels:

- Superficial epigastric artery
- Inferior epigastric artery
- Superficial circumflex iliac artery
- Deep circumflex iliac artery

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Step 1: Trocar Insertion

- Insert umbilical trocar through a Hulka or Veress needle or open technique
- Consider the Palmer point
Trocar Insertion Techniques

- Veress needle entry
- Optical trocar entry
- Direct trocar entry
Step 2: Lateral Ports

- Lateral ports: lateral margin of rectus muscle
- 3–4 fingerbreadths medial to anterior superior iliac spine
- Transilluminate
Transillumination

Transillumination is the shining of a light through the abdomen to identify abnormalities.

Image courtesy of Vaman Ghodake, MD, Ghodake Hospital, Sangli, India.
Step 3: Survey

- Abdominal survey
- Identify ureters

Images courtesy of Ernest Lockrow, DO.
Step 4: Remember A B C

**A** Identification of **Anatomy**
Detachment of **Adnexa**

**B** Broad ligament
Bladder
Blood vessels

**C** Cardinal ligaments
Colpotomy
Cuff closure

Uterus and right broad ligament, seen from behind. The broad ligament has been spread out and the ovary drawn downward.

Step 5

Start with salpingectomy
- Avoid ovarian vessels
- Stay at the level of the mesosalpinx, parallel to the fallopian tube

Transect the infundibulopelvic ligament
- Inspect the location of the ureter
- Desiccate perpendicular to the axis
Cauterize and Transect the Round Ligament
Cauterize and Transect the Infundibulopelvic Ligament

Image courtesy of Ernest Lockrow, DO.
Transect the Infundibulopelvic Ligament

Image courtesy of Ernest Lockrow, DO.
Complete Dissection to Round Ligament

Image courtesy of Ernest Lockrow, DO.
Identify Ureters Again
Make the Bladder Flap Dissection

Image courtesy of Ernest Lockrow, DO.
Step 6

- Transect the uterine vessels
- Lateralize the cardinals
  - Protect the ureters
Cauterize and Transect the Uterine Vessels
Step 7

- Complete the opposite side in a similar fashion
- Complete the colpotomy incision
Complete the Colopotomy Incision

Image courtesy of Ernest Lockrow, DO.
Cauterize and Transect the Vaginal Artery

Image courtesy of Ernest Lockrow, DO.
Step 8

Complete the posterior colpotomy preserving the uterosacral ligament support
Complete the Posterior Colpotomy
Last Steps

- Remove the uterus from below
- Close the vaginal cuff from below or laparoscopically
- Finish with removal of ports
- Close fascia defects larger than 10 mm
Close the Vaginal Cuff Laparoscopically

Image courtesy of Ernest Lockrow, DO.
References


